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ABSTRACT

The fact that technical writing is a form of discourse and not just a craft to be learned for a specific purpose means that it has at least three implications for the structure of writing programs. First, it is a method of writing development that is "you-centered" rather than "I-centered." Second, it is a heuristic for perceiving and organizing experience in a technological society. Third, it is a pragmatic alternative to the traditional and sometimes stale approaches to composition. Knowing and building on these implications, teachers of technical writing should seek to synthesize concepts of traditional freshman composition with concepts of traditional technical communication to revitalize their writing courses and to provide students with practical, lifelong learning skills. Communication is the basis of society's existence; and writing teachers must aid the development of their students' abilities to become parts of the system. Teachers can do this only by showing students the devices with which the system operates--the rhetoric that underlies technical writing. (RL)

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TECHNICAL WRITING: IMPLICATIONS FOR COMPOSITIONAL SKILLS DEVELOPMENT

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When I was working on my PhD at the University of Massachusetts, I occasionally found myself in pedagogical predicaments. These were rich with experience and consequently beneficial, but they were predicaments all the same. I taught a course in engineering report writing with John Mitchell, who understandably influenced my teaching and my beliefs concerning technical communication; my dissertation director was Walker Gibson, who also understandably influenced my beliefs concerning writing and composition. Being directly under the eye of two men who had sometimes sharply contrasting opinions on related aspects of essentially the same field has led me to what I wish to talk about in this paper.

What I just said is important: that John Mitchell and Walker Gibson concern themselves with essentially the same field: composing. Some would have us believe that technical writing lies somewhere outside the realm of composing, that composing has all sorts of bad connotations for the technical writer, and hence that the application of rhetorical principles to technical writing is inappropriate. These people would have us treat technical writing only as a craft course; they maintain that our purpose as teachers is to indoctrinate the preferred writing formats of various disciplines into the minds of our students. But treating technical writing only as a craft course short-changes our students and short-changes us. Certainly such a treatment has its supporters -- some of them formidable. Teaching technical writing as a craft satisfies most of the engineering and science faculties whose students we teach. It satisfies the power structure of many English departments who

still view the teaching of technical writing as a non-tenurable offense. But as a teacher concerned with the communicative abilities of my students, it does not satisfy me; and I imagine it does not satisfy many of you -- not even those of you who, for one reason or another, teach the course as a craft course. Such a narrowly focused approach to technical writing precludes the possibility of using the course pragmatically as a medium for writing development.

Technical writing is first and foremost writing. Those who would have us believe otherwise have turned their backs upon much of their educational heritage. Even matters not typically associated with technical writing -- Walker Gibson's hobby horse, persona, for example -- have an important place in technical communication: not for any properties which the development of various voices might reveal about the writer's self, but as useful and usable approaches to various audiences. Because the audience is different in each of the following writing environments, the voice at work in a well-designed proposal necessarily differs from the voice at work in a problem report -- eventhough the writer may be one and the same person. Furthermore, the work of those persons generally thought to be opposed to the usefulness of rhetoric in technical communication supports my claims. Anyone who has scrutinized one of John Mitchell's articles, anyone who has heard him speak, anyone who has sat in on one of his technical communication classes, knows that here is a fine rhetorician. Classical rhetoric speaks of the exordium, a dignified term for "whipping the audience up" into a receptive frame

of mind. The introductions of Professor Mitchell's talks and articles and classes do precisely this, and I imagine that for a different audience his reports do too. But the point is not that opponents to the use of rhetoric in technical writing for the purposes of educating their students are themselves fine rhetoricians; the point is that rhetoric is the glove into which the hand of all communication fits. As such, rhetoric can be used effectively in technical writing, it is so being used -- unwittingly or not, and it is right to do so.

If technical writing embodies rhetorical motive, as Kenneth Burke has suggested,[1] and if rhetorical motive, along with invention, arrangement, and style is a principle of discourse, as Frank D'Angelo has suggested,[2] then technical writing is discourse. And as discourse, it has at least the following implications for the structure of writing programs: first, it is a method of writing development which is "you-centered" rather than "I-centered"; second, it is a heuristic for perceiving and organizing experience in a technological society; and third, it is a pragmatic alternative to the traditional and sometime stale approaches to composition.

The first of these implications -- that technical writing is "you-centered" or audience adapted rather than being "I-centered" as traditional composition seems to be -- has been discussed fully in the past: not resolved, I might add, but fully discussed. Consequently, I do not plan to charge into that foray other than to point out that, for some reason or multiplicity of reasons, freshman composition seems to be even more "I-centered"

now than in the past. A possible reason for this is that as teachers find students each year with less and less well-developed abilities of analysis, they turn to personal narrative as a method of at least gaining a toe-hold for some type of writing development. But, assuming some sort of writing development does occur in the abilities of students tutored in this fashion, what good does it do them? How will a student use his improved narrative capabilities? Simple, he won't. Upper level courses, regardless of discipline -- even literature courses -- have little use for personal narrative; technical communication has almost none; and consequently I don't teach it at all, period.

A freshman composition course which is strongly rooted in the consideration of a modern rhetoric avoids directing students into such a communication dead-end. I should say what I mean by a modern rhetoric: I mean a rhetoric set within the framework of a technological society. Many of the principles of classical rhetoric apply, but the framework is different. There is no reason why freshmen cannot be taught the principles of persuasion or the principles of dialectic argument, for example, within a framework of how each will be used in our society. A personal example bears this out. This semester I have a student, a future engineer, who has shown considerable problems in identifying and developing ideas for an audience. At mid-term he was failing, and even now I doubt he will achieve higher than a C, if that. But two weeks ago, he turned in a paper that reflected noticeable improvement. The exercise was to write a short proposal as to how the state could resolve the conflict between conservationists

and developers in the Adirondack region of New York State; prior to the exercise I had discussed in class the methods for organizing dialectic argument within the framework of proposals and antagonistic audiences. Now I'm sure every one of us has a success story, and being a cynic I usually have some antipathy toward success stories. But this approach to writing clicked for this student, and it has for others. His proposal was good; it was by no means excellent. He had no epiphany which would enable him to write consistently incisive prose, but his work did show that he had understood and had carefully developed an argument within the designed framework, disposing with potential disagreements to his proposal. And his sense of accomplishment was rewarding -- to him and to me.

A second implication of the discursive aspects of technical writing is as a heuristic for perceiving and organizing experience in an increasingly technological society. The Sapir-Whorfian hypothesis that language influences the world view of its users is implicit in this. Accordingly, language -- specifically technical language -- becomes a method for conceptualizing action, time, space, causality, and so forth. As such, the implications for technical communication and for our approaches to writing development through the structure of our writing programs should be clear. How does the language of engineering affect the ways that engineers and engineering students look at things? In one of the recent NCTE sessions, the panel argued that the prolific use of the passive voice in technical writing was due to the audience being more interested in what was done

than in who did it. I suppose that's fine as far as it goes, but it strikes me that such a belief places a great deal more confidence in the stylistic ability of engineers than is warranted. My question is: "Does the writer know that what he is doing is a stylistic option, or is he doing it solely because that's the way it's always been done?" If the answer is the latter, as I think it may be, then I'm glad our engineers don't engineer like they write. Furthermore, is there any significance to the fact that the best student technical writing -- and by best I mean writing which takes into account the reader's needs and which seeks various ways to satisfy those needs -- was produced by the engineering students I taught at MIT, engineering students who are generally looked upon as some of the best, some of the most imaginative in the country? Certainly a point could be made that these students were the "pick of the litter", so to speak, and that this more than anything else affected the way that they wrote. In other words, they simply excelled at anything they did. In part this may be so, but I believe that the writing of these students was affected by their views of society and their places in it. To me the fact that they conceived of imaginative and effective ways to communicate their ideas to a variety of audiences relates to the fact that they also conceived of imaginative ways to solve complex engineering problems.

In light of the recent discussions of the relationship of entropy to discovery,[3] the importance of technical writing as a

heuristic for perceiving and organizing experience in an ever-increasingly technological world gains additional strength. In "Entropy and Composition" John Freund suggests that it is the "looseness" of language, the very ambiguity of language, its relatively high entropy, which enables -- even stimulates -- the user to engage in discovery while writing.[4] Therefore, if we strive to make students' writing more varied, more complex to reflect the complexity of their thoughts but orderly to enable others to understand their thoughts, more incisive, more analytic; in other words, if we strive to make them better writers -- better in the sense of a more creative exploration of discovery, might we not also make them more creative students, more creative businessmen and women, more creative engineers?

The third implication of the discursive elements of technical writing is actually a culmination of the first two. Using some of the aspects of technical writing can be a pragmatic alternative to the traditional and sometimes stale routines of composition courses. Now, I'm not going to suggest that technical writing replace freshman composition; that's been suggested before, and it doesn't work. A freshman composition course cannot be a technical writing course for the simple reason that the content for such a course is not there: students do not yet have the technical knowledge to make a course such as that worthwhile. But certainly we should teach even freshmen students how to write a variety of communications which are useful in the society in which they live. And as we have seen, doing so will not harm their writing development; in fact it will broaden and deepen it.

For example, we should teach students how to develop a number of voices which can work in the many different writing environments our society places each of us in -- from the composing of simple acknowledgements for goods and services rendered to the writing of letters asking for summer employment to the writing of result-getting complaints. Certainly we should teach them how to write chemistry and physics lab reports, how to write project reports, how to write up to, down to, and across to audiences. Students may never need to know how to write what has been called the glorified 5-star, 5-paragraph theme, but they will need to know how to write the types of day-to-day communication I have mentioned, and they will need to know how to write them shortly after they matriculate. Therefore, we should not leave the responsibility of teaching them how to do so to persons who are unqualified for the job: i.e. their lab instructors, physics professors, and so on. These people do not want the responsibility in the first place. But if we are going to teach our students how to write these practical communications, we must go beyond parading the forms before them. In each of the letters, in each of the reports I mentioned -- if they are to succeed -- the writer will need to know how to identify and address an audience, how to state and organize a thesis, and how to develop that thesis through explication, confirmation, classification, and other equally useful rhetorical techniques.

Any synthesis of traditional freshman composition concepts and traditional technical communication concepts will inevitably

involve our reperception of the role of writing in a technological society. If communication is the basis of our society's existence in that it provides the system for the transmission of knowledge, especially technological knowledge (witness the proliferation of published material in the sciences alone), then we must aid the development of our students' abilities to become parts of this system. And we can do that only by showing them the devices with which the system operates -- in other words, rhetoric.

Innately, students know the importance of communication abilities; they associate it with careers. I am impressed with the career-consciousness of incoming freshmen. If this career-consciousness at the freshman level is any indication of trends for the 1980's, then students will be more and more concerned that what we offer them in our courses is practical, that they can use it -- in college and after. Students know what a practical writing education can mean to them: immediately it means better grades; in the future it means jobs. They see job description advertisements, and what they see has a theme: employers want people who can communicate. Providing employers with those people is our responsibility -- from a student's first day in college.

END NOTES

[1] Kenneth Burke, A Rhetoric of Motives (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1950), p. 172.

[2] Frank D'Angelo, A Conceptual Theory of Rhetoric (Cambridge, Massachusetts: Winthrop Publishers, Inc., 1975), p. vi.

[3] John Freund, "Entropy and Composition," College English, Vol. 41, No. 5 (January, 1980), 493-516.

[4] Freund, pp. 506-507.